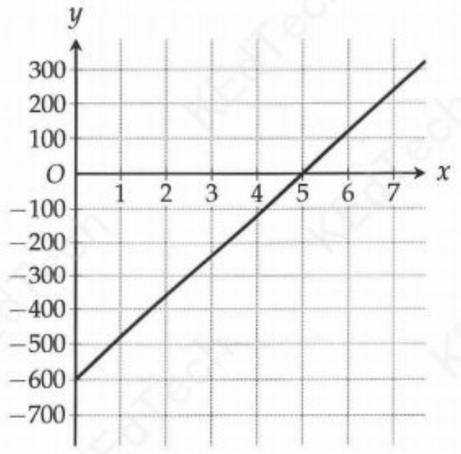
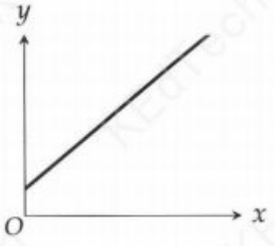
**12**




The graph models the daily profit $y$, in dollars, of a bakery after $x$ cakes are sold. Which of the following is the best interpretation of the $y$-intercept of the graph in this context?

A) The price of each cake
B) The cost of making each cake
C) The daily cost of running the bakery
D) The daily cost of making the cakes that weren't able to be sold

**13**




A train began its route a certain distance away from a train depot and traveled in a straight path directly away from it. The line shown represents the train's distance from the depot, in miles, $x$ hours after it began its route. What is the best interpretation of the slope of the line?

A) The speed of the train, in miles per hour, during its route
B) The distance, in miles, between the train depot and the train at the start of its route
C) The total distance, in miles, the train has traveled $x$ hours after it began its route
D) The number of hours it took for the train to finish its route

**14**

$$T = 56 + 5h$$

The given equation models the temperature $T$ of a room, in degrees Fahrenheit, $h$ hours after a heater is turned on. According to the model, the temperature of the heated room increases by how many degrees Fahrenheit every 30 minutes?

2.5

**15**

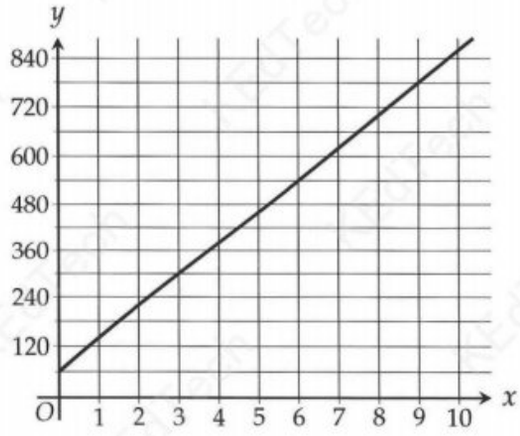
A recipe suggests sweetening honey tea with sugar according to the equation $s = 10 - 2h$, where $s$ is the amount of sugar, in teaspoons, that should be added to a tea beverage containing $h$ teaspoons of honey. What is the best interpretation of 2 in this context?

A) For every teaspoon of honey in the beverage, two more teaspoons of sugar should be added.
B) For every teaspoon of honey in the beverage, two fewer teaspoons of sugar should be added.
C) For every two teaspoons of honey in the beverage, one more teaspoon of sugar should be added.
D) For every two teaspoons of honey in the beverage, one fewer teaspoon of sugar should be added.



K Education & Technology

## 16



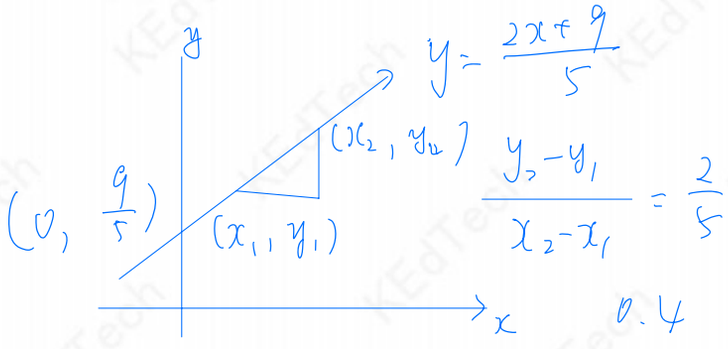

The graph represents the total time $y$, in minutes, a lawyer spent reviewing a case and providing $x$ legal consultations. What is the best interpretation of the slope of the graph in this context?

A) The lawyer spent 60 minutes reviewing the case.
B) Each legal consultation lasted 60 minutes.
C) The lawyer spent 80 minutes reviewing the case.
D) Each legal consultation lasted 80 minutes.

## 17

$$T(x) = \frac{2x+9}{5}$$

The function $T$ models the time, in seconds, it takes to load a web page with $x$ images. According to the model, by how many seconds does each image increase the load time of a web page?




## 18

Jamil reached the end of a 26-mile track by walking at a speed of 5 miles per hour and running at a faster speed than he walked. The equation $5t + 9(4 - t) = 26$ represents this situation, where $t$ is the total amount of time, in hours, Jamil spent walking. Which of the following is the best interpretation of 4 in this context?

A) The total distance, in miles, that Jamil ran
B) The speed at which Jamil ran, in miles per hour
C) The total number of hours Jamil spent running
D) The total number of hours Jamil spent walking and running

## 19

$$A = \frac{7}{2}(9 + x)$$

The function $A$ gives the area, in square inches, of a trapezoid with a height of 7 inches, a shorter base of 9 inches, and a longer base of $x$ inches. If the length of the longer base is increased by 5 inches, by how many square inches does the area of the trapezoid increase?

$A_{new} = \frac{7}{2}[9 + (x+5)]$ ①

$A_{old} = \frac{7}{2}(9+x)$ ②

① - ②

$\frac{7}{2}[9 + (x+5)] - \frac{7}{2}(9+x)$

$= \frac{7}{2} \times 9 + \frac{7}{2}x + \frac{35}{2} - \frac{7}{2} \times 9 - \frac{7}{2}x$

$= \frac{35}{2}$


K Education & Technology